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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,887	11/13/2003	Jacqueline E. Heard	MBI-0058CIP	5720

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MENDEL BIOTECHNOLOGY C/O MOFO SF
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SAN FRANCISCO, CA 94105

EXAMINER

KRUSE, DAVID H

ART UNIT	PAPER NUMBER
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1638

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05/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/714,887	Applicant(s) HEARD ET AL.	
	Examiner David H. Kruse	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 71-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 71-78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

STATUS OF THE APPLICATION

1. This Office action is in response to the Amendment and Remarks filed 10 February 2009.
2. Those objections or rejections not specifically addressed in this Office action are withdrawn in view of Applicants presentation of all new claims.
3. The rejection under 35 U.S.C. § 103(a) as being unpatentable over Pysh *et al* (1999, The Plant Journal 18(1): 111-119) is withdrawn in view of Applicants' arguments.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 76 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claim is indefinite because it is unclear what the metes and bounds of "is more likely to have survived" are in relation to "a drought treatment". This appears to be an optional limitation.

7. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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8. Claim 76 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant claim is directed to New Matter because the instant specification does not have written description support for “wherein the transgenic plant is more likely to survive seven to eight days of drought treatment”.

9. Claims 71-73 and 76-78 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is repeated for the reason of record as set forth in the last Office action mailed 10 September 2008.

Applicant's arguments filed 10 February 2009 have been fully considered but they are not persuasive.

Applicants' arguments concerning a representative number of species that fall within the claim genus are not found to be persuasive (pages 3-4 of the Remarks). The Office's search of SEQ ID NO: 4 finds that G3811 (SEQ ID NO: 214) is only 57.2% identical to SEQ ID NO: 4. Thus G311 falls outside of the claimed genus. The remaining species, G3810 (SEQ ID NO: 210) is insufficient to describe a genus encoded polypeptides of 60% identical to SEQ ID NO: 4, that confer water deprivation tolerance to a transgenic plant, because G3810 is only 62.7% identical to SEQ ID NO: 4. For “at

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least 80% identical to SEQ ID NO: 4” Applicants appear to only describe on species that confers water deprivation tolerance to a transgenic plant, and for “at least 95% identical to SEQ ID NO: 4”, the claims set forth no specific structure-function relationship to describe such a genus.

10. Claims 71-73 and 76-78 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a water deprivation tolerant transgenic plant comprising a recombinant polynucleotide that encodes SEQ ID NO: 4, does not reasonably provide enablement for a water deprivation tolerant transgenic plant comprising a recombinant polynucleotide that hybridizes to the complement of SEQ ID NO: 3. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. This rejection is repeated for the reason of record as set forth in the last Office action mailed 10 September 2008. Applicant’s arguments filed 10 February 2009 have been fully considered but they are not persuasive.

Applicants arguments concerning the teaching of structural-functional relationship in Table 1 of the specification (see pages 35-37) is sufficient to teach one of skill in the art how to make and use the invention within it’s full scope is not found to be persuasive (pages 4-5 of the Remarks). Applicants teach seven species, of which only two fall within the claimed genus. The Examiner notes that Applicants only teach how to make and use transcription factors to impart greater tolerance to water deprivation, yet the instant claims are not so limited. Hence, Applicants have failed to teach one of

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ordinary skill in the art how to make and use the invention within the full scope of the claims.

Claim Rejections - 35 USC § 103

11. Claims 71-78 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Benfey *et al* (WO 97/41152). This rejection is repeated for the reason of record as set forth in the last Office action mailed 10 September 2008. Applicant's arguments filed 10 February 2009 have been fully considered but they are not persuasive.

Applicants argue that Benfey *et al.* do not teach the complete claimed protein sequence. Applicants argue that Benfey's sequence is just as flawed as Pysh's sequence, lacking the first 157 amino acid residues, and part of the first SCR domain. the present rejection attempts to make a case for obviousness merely by the finding of a partial sequence and armed with the knowledge that this partial sequence may be transformed into a plant and is then expressed in the roots, it would have been obvious to then isolate the complete coding sequence, and then transform and plant, and presumably, then test the plant for a useful function (page 8, 1st paragraph of the Remarks).

Applicants argue that in this case, the partial protein taught by Benfey did not even measure up to the requirement of a complete element known in the art, the partial protein did not provide the instantly claimed function, the Examiner has provided no evidence or reasoning that the partial protein would provide the claimed function, and since no plant overexpressing the G922 sequence was known in the art, the cited elements should not be associated with each one another as the basis of an

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obviousness rejection according to the rationale set forth in KSR (page 8, 2nd paragraph of the Remarks).

These arguments are not found to be persuasive. Benfey acknowledged that the SRPa3 gene was partially sequenced (page 12, lines 23-25), but it would have been obvious and within the means of one of ordinary skill in the art at the time of Applicants' invention to isolate the complete coding sequence and transform a plant therewith. Benfey teaches transforming a plant with an isolated nucleic acid encoding the SRPa3 at claims 1, 2, 20 and 23 (SEQ ID NOs: 20 and 21). While Benfey did not specifically teach overexpression of said polynucleotide confers to the transgenic plant greater tolerance to water deprivation, Benfey did teach that overexpression of said polynucleotide would result in thicker root development (claim 18). It would have been obvious to one of ordinary skill in the art that thicker root development would confer greater tolerance to water deprivation (page 54, lines 1-10).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The central FAX number for official correspondence is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-1600.

/David H Kruse/
Primary Examiner, Art Unit 1638
22 May 2009